

ABSTRACT

A hologram recording device can easily perform multiplex recording/reproduction on a hologram recording medium. The hologram recording device includes an optical system and a distance controlling mechanism. The optical system focuses on a substantially same location of a hologram recording medium a signal light modulated at a light modulating element and a reference light whose phase has been modulated at a phase modulating element. The distance controlling mechanism controls a distance between the phase modulating element and the hologram recording medium. By controlling the distance between the phase modulating element and the hologram recording medium, multiplex recording can be performed on the hologram recording medium. In an ordinary phase-correlation multiplexing method, multiplex recording is performed as a result of shifting a light-focusing location in the direction of a surface of the hologram recording medium, whereas, in the present invention, it is possible to perform the multiplex recording without shifting the light-focusing location in the direction of the surface of the hologram recording medium. It is possible to further increase recording capacity as a result of shifting the light-focusing location in the direction of the surface of the

hologram recording medium. Here, compared to the ordinary phase-correlation multiplexing method, it is possible to perform shifting by a sufficient amount.